

REMARKS

Claims 1-12, 15-17 and 19-34, as amended, remain herein. Claims 1-3, 11 and 12 have been amended. Claims 13, 14 and 18 have been cancelled without prejudice. New claims 22-34 have been added. Support for the amendments and the new claims may be found throughout the specification and in the original claims (see, e.g., page 16, lines 23-28 of the specification).

1. Claims 11 and 12 have been amended thereby mooting the objection thereto.
2. Claim 2 was rejected under 35 U.S.C. § 112, first paragraph. Claim 2 has been amended. Written description support for current claim 2 may be found in original claim 2, in FIG. 3(a) and at page 19, lines 22-24 of the specification (stating that “the resin material is filled into the product cavity through the injection nozzle, a sprue of a sprue bush, the resin pit, the runner and the gate.” (emphasis added here)). See also MPEP § 2163 (“The claims as filed in the original specification are part of the disclosure.”). Applicants respectfully request reconsideration and withdrawal of this rejection.
3. Claims 3 and 13 were rejected under 35 U.S.C. § 112, second paragraph. Claim 3 has been amended and claim 13 has been cancelled thereby mooting this rejection.
4. Claims 11-14 and 18 were rejected under 35 U.S.C. § 112, second paragraph. Claim 11 and 12 have been amended and claims 13, 14 and 18 have been cancelled thereby mooting this rejection this rejection.

5. Claims 1, 3-10 and 19 were rejected under 35 U.S.C. § 103(a) over Nishimoto U.S. Patent Application Publication 2002/0036360 in view of Sato et al. JP 11-262938.

Applicants' claim 1 recites a molding method using ultrasonic vibration in which a resin material in a molten state is injected from an injection apparatus, filled into a cavity of a mold, and cooled down to obtain a product in a predetermined shape, the method comprising: preparing a mold having a product cavity to mold a product, a dummy cavity to mold a dummy product, and a runner by which the product cavity and the dummy cavity are connected; injecting a resin material in a molten state into the product cavity via an injection apparatus; injecting the resin material in a molten state into at least part of the dummy cavity; and applying ultrasonic vibration to the resin material in the dummy cavity at a predetermined time.

As admitted in the Office Action, Nishimoto does not disclose applying ultrasonic vibration to the resin material in the dummy cavity. Sato does not teach or suggest what is missing from Nishimoto. Sato discloses the use of ultrasonic vibration on a mold itself but says nothing about applying ultrasonic vibration to the resin material in a dummy cavity. While Nishimoto discloses two spectacle-lens molding cavities (see Nishimoto at paragraph [0074]), Nishimoto says nothing about using one of these cavities as a dummy cavity. Thus, if a person of ordinary skill in the art combines Nishimoto and Sato, he or she would apply ultrasonic vibration to both Nishimoto's cavities. The person of ordinary skill in the art would not think of using one of the cavities as a dummy cavity, and applying ultrasonic vibration to the dummy cavity only, for the purpose of causing resin material to flow from the dummy cavity to the

product cavity. Applicants' molding method is not obvious and achieves superior molding accuracy and quality. Applicants' specification explains that:

By applying the ultrasonic vibration, the resin material in the dummy cavity 18 is heated and molten, and caused to flow into the product cavity 17. (This is called "pumping effect" in this specification.) Thus, the resin material M filled into the product cavity 17 is pressurized, thereby allowing strain to be reduced and transferability to be improved.

Applicants' specification, page 15, lines 7-13.

Thus, neither Nishimoto nor Sato teaches or suggests applicants' claimed invention. Nishimoto and Sato disclose nothing that would have suggested applicants' claimed invention to one of ordinary skill in the art. There is no disclosure or teaching in Nishimoto, Sato, or otherwise in this record, that would have suggested the desirability of modifying any portions thereof effectively to anticipate or suggest applicants' presently claimed invention. Applicants respectfully request reconsideration and withdrawal of this rejection.

6. Claim 2 was rejected under 35 U.S.C. § 103(a) over Nishimoto in view of Sato.

Applicants' claim 2 recites a molding method using ultrasonic vibration in which a resin material in a molten state is injected from an injection apparatus, filled into a cavity of a mold, and cooled down to mold a product in a predetermined shape, the method comprising: preparing a mold having a plurality of product cavities to mold products, a runner by which the product cavities are connected to each other, and a resin pit located at a halfway part of the runner; injecting the resin material into the resin pit thereby filling all of the plurality of product cavities; and applying ultrasonic vibration to the resin material in the resin pit at a predetermined time.

As discussed above, neither Nishimoto nor Sato teaches or suggests applicants' claimed invention. Indeed, Sato teaches applying ultrasonic vibration directly to the mold while applicants' claimed invention applies ultrasonic vibration to the resin material in a dummy cavity or a resin pit, which results in a pumping effect. As explained above, applicants' molding method is not obvious and achieves superior molding accuracy and quality.

Thus, neither Nishimoto nor Sato teaches or suggests applicants' claimed invention. Nishimoto and Sato disclose nothing that would have suggested applicants' claimed invention to one of ordinary skill in the art. There is no disclosure or teaching in Nishimoto, Sato, or otherwise in this record, that would have suggested the desirability of modifying any portions thereof effectively to anticipate or suggest applicants' presently claimed invention. Applicants respectfully request reconsideration and withdrawal of this rejection.

7. Claims 11, 13-17 and 20 were rejected under 35 U.S.C. § 103(a) over Nishimoto in view of Sato.

Applicants' claim 11 recites a molding machine in which a resin material is injected from an injection apparatus, filled into a cavity formed in a mold, and compressed to mold a product in a predetermined shape, the molding machine comprising: a mold having a product cavity for molding a product; an injection apparatus for injecting a resin material into said mold; a dummy cavity for molding a dummy product; a runner connecting the product cavity and the dummy cavity; and ultrasonic wave application means for applying ultrasonic vibration to resin material in the dummy cavity.

As discussed above, neither Nishimoto nor Sato teaches or suggests applicants' claimed invention. Sato teaches applying ultrasonic vibration directly to the mold while applicants' claimed invention applies ultrasonic vibration to the resin material in a dummy cavity or a resin pit, which results in a pumping effect. As explained above, applicants' molding machine is not obvious and achieves superior molding accuracy and quality.

Thus, neither Nishimoto nor Sato teaches or suggests applicants' claimed invention. In addition, Nishimoto and Sato disclose nothing that would have suggested applicants' claimed invention to one of ordinary skill in the art. There is no disclosure or teaching in Nishimoto, Sato, or otherwise in this record, that would have suggested the desirability of modifying any portions thereof effectively to anticipate or suggest applicants' presently claimed invention. Applicants respectfully request reconsideration and withdrawal of this rejection.

8. Claims 12, 18 and 21 were rejected under 35 U.S.C. § 103(a) over Nishimoto in view of Sato.

Applicants' claim 12 recites a molding machine in which a resin material is injected from an injection apparatus into a cavity formed in a mold and compressed to mold a product in a predetermined shape, the molding machine comprising: a mold having a plurality of product cavities for molding products; a runner connecting the product cavities to each other; a resin pit located at a halfway part of the runner; an injection apparatus for injecting a resin material into said resin pit, thereby filling the plurality of product cavities with resin via said runner; and ultrasonic wave application means for applying ultrasonic vibration to resin material in the resin pit.

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As discussed above, neither Nishimoto nor Sato teaches or suggests applicants' claimed invention. Sato teaches applying ultrasonic vibration directly to the mold while applicants' claimed invention applies ultrasonic vibration to the resin material in a dummy cavity or a resin pit, which results in a pumping effect. As explained above, applicants' molding machine is not obvious and achieves superior molding accuracy and quality.

Thus, neither Nishimoto nor Sato teaches or suggests applicants' claimed invention. Nishimoto and Sato disclose nothing that would have suggested applicants' claimed invention to one of ordinary skill in the art. There is no disclosure or teaching in Nishimoto, Sato, or otherwise in this record, that would have suggested the desirability of modifying any portions thereof effectively to anticipate or suggest applicants' presently claimed invention. Applicants respectfully request reconsideration and withdrawal of this rejection.

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Accordingly, all claims 1-36 are now fully in condition for allowance and a notice to that effect is respectfully requested. The PTO is hereby authorized to charge/credit any fee deficiencies or overpayments to Deposit Account No. 19-4293. If further amendments would place this application in even better condition for issue, the Examiner is invited to call applicant's undersigned attorney at the number listed below.

Respectfully submitted,

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